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AUTHOR van Naerssen, Margaret; And Others
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ABSTRACT

A study of classroom communication skills and strategies initiated in an effort to enhance the experience of Chinese graduate students visiting the United States had two parts. In the first, communications in a sampling of U.S. graduate science courses were examined, resulting in information about the language of classroom conversation management. This information was then incorporated into oral communication classes in China. The second part of the study, undertaken in China, looked at interaction in graduate science courses to (1) examine apparent cultural differences in more detail, (2) determine whether the strategies being taught from the study's first part were those most needed by students going abroad, (3) orient Chinese scientists going abroad at a more general level to classroom interaction, and (4) orient foreign teachers and scholars working in China. The results of both sets of data were analyzed for similarities, differences, and salient characteristics of classroom communication in the two countries, and the results are presented. The analysis focuses on these communication features: total class time for teachers and students, student and teacher initiation of interactional frames, techniques used by students in initiating interaction, and nonverbal feedback from students. The implications of these results for the U.S. scientist going to China are discussed briefly. (MSE)

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How Is a Chinese Student Like a Thermos Bottle?

by

M. van Naerssen, M.E. Huang and E. Yarnall

1984

A Chinese professor from Shanghai once described Chinese students as being like a thermos bottle: appear cold on the outside but warm on the inside.

This article reports on portions of a research study on professor-student interaction in 5 graduate science courses in Beijing, PRC and 5 in the U.S. The results confirm some impressions that many foreign scholars and English teachers have of classes; however, some impressions are not what they seem when the surface is scratched. Highlighted in this article also are some suggestions for professor-student interaction for foreign scholars lecturing in the PRC.

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1. Introduction

Visiting foreign scholars and English teachers in classroom situations in China usually experience a sense of frustration in communication at first, not knowing whether or not the students are understanding what is being said. The foreigners see rows of blank faces. Also students initially usually seem unwilling to ask questions in class. This appears to be more than just a difference in language. Chinese scholars doing advanced study and research in the U.S. also report difficulty initially in participating in classroom discussions and are reluctant to ask questions in class.

The University of California, Los Angeles and the Chinese Academy of Sciences has developed a language training center in Beijing to prepare Chinese scientists for going abroad for further study and research(1). Part of this effort has been to develop specific curriculum materials designed to prepare Chinese scientists for going abroad.

One aspect of the first stage of the curriculum development effort was to examine communications in a sampling of U.S. graduate science courses (physics, mathematics, engineering, chemistry and psycho-biology(2)). One result of this initial study was the actual language of classroom conversation management. This was incorporated into oral communication classes to help students to learn to control, to some extent, the language input they would receive once abroad.

A second stage of this effort occurred once we were in China: to examine interaction in graduate science courses. This would put us in a better position:

1) to examine in more detail apparent differences;
2) to determine whether or not the strategies being taught in our English for Science and Technology program were indeed the ones needed most by the students going abroad; and
3) to orient Chinese scientists going abroad at a more general level to classroom interaction as well as to orient foreign teachers and scholars working in China.

In this second stage of the study, a Chinese and a U.S. researcher/teacher went into regular graduate science courses taught by Chinese professors in the Peoples' Republic of China. They used audiotape and took contextual notes of the classroom interaction. The five courses observed/taped were Methods of Finite Element, Quantum Chemistry, Documentation Readings for Geophysics, Micro-computers and Seismology.

Both sets of data (U.S. and Chinese) were analyzed using the following variables: teacher general solicit, teacher personal solicit, student response, student self-select without a bid and teacher response.

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II. Discussion of Results

A. Total Class Time for Teachers and Students

The data from the U.S. classes dispell the notion that teachers in the U.S. talk significantly less than Chinese teachers, at least at the graduate level, although this is, admittedly, a very small study. The lowest percentage of teacher time among the U.S. classes was 88.1% and, setting aside a special exception, the lowest among the Chinese classes was 93.7%(4/). The highest among the U.S. classes was 98.8% and among the Chinese 99.6%.

The changes that have been encouraged in classrooms in the U.S. in recent years of more student-centered activities have not reached the graduate school level as extensively as may be thought if this limited sample were to be considered representative. Wong (research in progress) has also noted that graduate science courses in one particular U.S. university do not generally all fit the highly interactive, student centered model.

The data also shows that even in Chinese classes there can be some negotiation or local allocation of teacher/student time:

a. In the Micro-computers class the professor allowed time for questions during class time as he needed the break for rest since he had just come out of the hospital after serious surgery.

b. Some management interaction is allowed during class time ("Do you have a copy of ...?" "Can you see the overhead transparency?" "Come to the front.").

c. Students were observed to frequently whisper among themselves for clarifications.

d. Interaction is allowed for, at the break.

Sato (1982) notes that it isn't enough to quantify classroom interaction in terms of turns taken. One needs to know how students use the time once they do get a turn. In this study, inspite of the surface similarities between the U.S. and Chinese classes in terms of distribution of time, there appeared to be some differences in what happens during student-teacher interaction. In the Chinese classroom interactions no personal opinions were expressed. The interaction consisted of corrections of numerical/formulae information being put on the blackboard by the teacher, exchanges related to classroom and course management, and some requests for clarifications (especially in the Micro-computers class). In contrast, in the U.S. classes there were opinions and even joking around. However, the Chinese investigator in this study was quick to point out that in Chinese universities:

1) Opinions are sometimes expressed during the break when some students gather around the professor.

2) Students don't always accept the professor's opinion blindly. Out of respect for the professor, not wanting to embarass him/her, students might keep their opinions to themselves.

Also professors may experiment with format as in the Documentation course where the professor was trying to teach both the content area and English.

B. Initiation of Interactional Frames

In this study the overall average percentage of student initiated interaction was significantly lower by the Chinese students than by the U.S. students. It should be remembered, however that the classroom formats varied greatly for both the U.S. and Chinese classes, thus only a tendency can be observed, but this tendency cannot be generalized at this time.

Chinese students have most of the same reservations many U.S. students have about asking questions in class: shyness, not wanting to look foolish by asking a "dumb" question; not wanting to waste class time on questions that maybe only one person has, etc. But, in addition to these common motives, there are also additional causes for a reluctance to ask the professor a question. If the professor does not know the answer he/she might lose face. Furthermore, it disrupts the teacher's planning which would be considered rude. The teacher is pre-allocated the full class period on the assumption that questions may be asked after class.

Also, while in lower grades teacher do a lot of quizzing of students in the class, at the graduate level it is not considered as necessary as they are adult learners and should not need that kind of quizzing to learn the material. Also as in graduate school the student and professor are closer in age, the professor might not want to embarass the student should the student not know the answer; students are given problems to work on out of class.

C. Techniques of Self-Selection

In this data a somewhat surprising pattern emerged in regard to the way students initiated interaction: the students did not bid, that is, they did not seek permission verbally or non-verbally to speak. This did not fit with stereotypes one of the U.S. researchers had developed of Asians in general nor did it seem typical of the many formal situations she had found herself in China. Nor did it seem to fit with the traditional respect for the teacher one hears about in Asia. It was also contradictory with Sato's data from English classes in the U.S. in which Asian students were found to bid significantly more than Non-Asians. The Chinese researcher on this project offered this explanation.

As the reader may know, the university system in the People's Republic of China broke down during the Cultural Revolution. When it was restored in 1977 many older applicants were admitted. Year by year the admissions age has been lowered. As a result in the particular graduate classes in this study the students were generally much older than the traditional graduate student; they were in their late 20's or 30's or even older. They had already been in the work force. They were probably married with children; some were returning for graduate work after the interruption of the Cultural Revolution. As a result, these students are considered socially more equal to the professor.

These older Chinese students have also become accustomed to work situations in which there is little bidding. The principle in the work place appears to be the following: everyone is at work to work, to serve the people, the State, to help each other. There is no need to waste time with formalities of asking frequently for permission to interrupt. In contrast, for a Westerner who happens to value time highly one might expect a brief apology for interrupting.

The Chinese researcher also noted that in her regular foreign language classes there is much more bidding. In February 1982 in her graduate school there was a large influx of younger graduate students (about 400+). It might be interesting to observe whether, in fact, the age difference of these younger graduate students significantly affects a preference for bidding. Some foreigners in 1979-81 observed that some younger students, especially in undergraduate classes, were surprisingly vocal and even sometimes abrasive to professors. The apparent explanation was that these students were raised during the extremes of the Cultural Revolution when revolution against and harassment of "intellectuals" (which included teachers at all levels), was the norm. One might predict a continued relatively high frequency of no bidding among students in that generation and then perhaps a gradual drop, maybe not back to the pre-cultural Revolution days, but significantly lower than that exhibited by the Cultural Revolution generation and by the classes of older students who had already been in the work force.

D. Non-verbal Feedback from Students

As no videotaping was done the following observations cannot be verified, but numerous foreign visiting scholars and teachers report similar observations.

There was very little eye contact between the professor and students in Chinese classes, except when the professor was at the blackboard, pointing to information at the board, and talking to and facing the class. One professor talked at length to the blackboard. During one lecture the professor talked/read the lecture to the upper right rear corner of the room and the students

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had their heads down over their notebooks taking notes/dictation. There were almost no facial expressions indicating comprehension or incomprehension, agreement or disagreement, nor were nods used as positive feedback. The most common changes of facial expressions were occasional yawns.

No similar observations were made of U.S. classes. But the absence of some non-verbal facial feedback in Chinese classes reported by U.S. visiting lecturers is indirect evidence for such feedback being a fairly common pattern in U.S. classes.

Even though this study in China focussed on Chinese professor-student interaction an interesting incident was noted by one of the researchers while observing interaction in a special series of lectures given by a visiting U.S. physics professor. During the first half of the class there was no visible non-verbal feedback from the students to the professor. Then one of our scientists preparing to go overseas came in and sat in the front row. He had been taught about giving feedback and proceeded to do so. Very quickly the visiting professor began looking at and talking to that student.

III. Possible Origins of Differences

In exploring explanations for the differences in this study and in differences observed by foreigners (by North Americans, Europeans, Australians) the primary cause for the differences seems to lie in differing educational philosophies which in turn define the roles of the teacher and the student.

In cultures with Western European traditions there is more of a Socratic tradition, of skepticism, of questioning, as part of the learning process. Whereas, in China there is a tradition of mastery of great or significant works be it in science, art, literature, etc. Once the works of the great masters, leaders, are learned then one can apply the principles to solving problems or be creative in other ways. This usually involves much memorization. However, it should be noted that the Western European tradition is not purely Socratic especially in the early stages of learning: it is expected that basic laws, principles and facts in a discipline be mastered though it may or may not be through memorization.

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In the Chinese tradition the teacher generally is viewed primarily as a dispenser of knowledge(5). Whereas, in Western European tradition the teacher has both that role as well as one of guiding students to find the answers themselves, of teaching students how to ask questions and how to find the answers.

This difference influences the role of the teacher or professor and consequently the kind of interaction that takes place during class time.

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Implications for the U.S. Scientist Going to China

This study was originally undertaken to better prepare Chinese scientists going abroad. Implications for curriculum development and general suggestions for Chinese scientists going abroad are available in the more comprehensive report by van Naerssen, Huang and Yarnall. However, for this particular article it was felt that it would be more appropriate to consider how the study could be of help to foreign scientists going to the People's Republic of China.

When the U.S. scientist goes abroad to be a visiting lecturer he/she needs to decide whether to operate according to the tradition of being primarily a dispenser of information or one that also involves Socratic questioning and/or student centered exploration of ideas or analyses of information.

If the straight lecture approach is chosen the visiting scientist should be prepared for no questions being asked during the class. And, if the students have not had many foreign lecturers, he/she should be prepared for a sea of blank faces, for little non-verbal feedback. The foreign scientist might conduct a question answer time during the break, and perhaps reduce the formal lecture time to allow more "out-of-class" questions.

Another approach might be to break the formal lecture up into several short formal sessions with extra breaks. Gradually the short breaks could be "moved" into the more formal classroom setting.

If the visiting scientist uses a different approach it would be critical that before the first session the "rules" of and expectations for student participation be explained and reinforced in subsequent class periods as a reminder. If this approach is chosen the visiting scientist might explain that he/she is in China for only a short time and will not have time to learn to adapt to a Chinese style of teaching. He/she should then request that the students pretend they are in a U.S. classroom; then the "rules" of the classroom would be explained, and regularly re-enforced until students got into the new pattern.

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Footnotes

(1) A similar center was also developed in Guangzhou as a joint effort between UCLA and the Ministry of Education.

(2) The U.S. data were collected from 5 graduate science courses in two universities in Southern California; there was an average of 21 students per class. Six hours, 10 minutes of taped data and written contextual notes were gathered.

(3) The Chinese data were collected from five graduate science courses at one university in northern China; there was an average of 8 students per class. Six hours, 6 minutes and 36 seconds of taped data and written contextual notes were gathered.

(4) The exception was the Documentation course with 12.5% teacher time as students read aloud translations for most of the class time.

(5) K. Johnson in the School of Education at the University of Hong Kong suggests there may also be another variable at work here which is not directly cultural-specific: the accessibility of a country's population to education (in this case tertiary education) and to knowledge. In this study it was obvious that in the classes there was a serious shortage of textbooks and the lecturer became quite literally the dispenser of knowledge with the students frequently copying verbatim what was said. There may be an age level factor involved as there appears to be more eye contact in elementary grades.

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